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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/935,002	08/21/2001	Tae-Pok Rhee	5484-92	9272

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EXAMINER

TSAI, H JEY

ART UNIT PAPER NUMBER

2812

DATE MAILED: 03/31/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/935,002

Applicant(s)

RHEE

Examiner

H.Jey Tsai

Art Unit

2812

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 04 February 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-15, 17-27 and 29-52 is/are pending in the application.
- 4a) Of the above claim(s) 17-24, 41-48, 52 is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-15, 25-27, 29-40, 50 and 51 is/are allowed.
- 6) ☒ Claim(s) 49 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Election/Restrictions

Newly submitted claim 52 directed to the non-elected invention.

Since applicant has received an action on the merits for the originally presented elected invention, this invention has been constructively elected by original presentation for prosecution on the merits. Accordingly, claim 52 is withdrawn from consideration as being directed to a non-elected invention. See 37 CFR 1.142(b) and MPEP § 821.03.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 49 is rejected under 35 U.S.C. 103(a) as being unpatentable over JP404302406, in view of Yamada et al. 6,236, both are previously applied.

The reference(s) teach the features:

JP '406 substantially discloses a method of forming an inductor on the semiconductor device, which includes:

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forming a semicircular groove in an insulating layer 1₂ (SiO₂ or such as resin is buried inside the cavity without using upper substrate 4) on a semiconductor substrate 1₁, fig. 1, abstract and page 4, lines 33-34,

forming an inductor having a cylindrical cross-section 2/4 in the groove, wherein an upper portion of the cylindrical cross-section protrudes 2/4 (replacing with insulator, SiO₂ or resin) from an upper surface of the groove,

the lower wiring and upper wiring formed a spiral solenoid (helically shaped), see abstract and fig. 2 of page 5.

The difference between the reference(s) and the claims are as follows: JP '406 teaches forming an inductor with a cylindrical insulator formed in the groove of insulating layer having semi-circle but does not clearly teaches the semicircle groove having a rounded circumference. However, Yamada et al. teaches forming an inductor having a rounded semicircle grooves in figures 35 and 36 in the insulating layer 1a, 1b.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to form a groove with rounded semicircle as suggested by Yamada et al. because the bottom of groove become rounded during the etching.

Allowable subject matter

Claims 1-15, 25-27, 29-40 and 50-51 are allowable over the prior art of record.

Conclusions

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Applicant's arguments filed on Feb. 4, 2005 have been fully considered but they are not persuasive. Because JP '406 clearly teaches conducting portion of inductor is formed to have a helically shape (spiral solenoid in fig. 2 of page 5).

Any inquiry of a general nature or clerical matters or relating to the status of this application or proceeding should be directed to the Group customer service whose telephone number is (703) 308-4357.

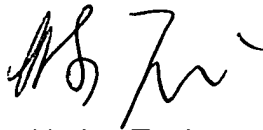
Any inquiry concerning this communication or earlier communications from the examiner should be directed to H. Jey Tsai whose telephone number is (571) 272-1684. The examiner can normally be reached on from 7:00 Am to 4:00 Pm., Monday thru Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Lebentritt can be reached on (571) 272-1873.

The fax phone number for this Group is (703) 872-9306.

hjt

3/29/2005



H. Jey Tsai
Primary Examiner
Patent Examining Group 2800